

REMARKS

Claims 16-36 are pending. Applicants have carefully considered the Office Action dated February 20, 2008 (“Office Action”). Applicants present the following remarks in a sincere attempt to place this Application in condition for allowance. Applicants respectfully request reconsideration and allowance in light of the following remarks.

Claims 16-36 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent App. Pub. No. 2003/0135779 by Takashima et al. (“Takashima”) in view of U.S. Patent No. 5,878,264 by Ebrahim (“Ebrahim”). Applicants respectfully traverse these rejections.

Specifically, regarding Claim 16, the Examiner admits that Takashima fails to teach “providing a voltage to the subunit [of the processor] based on a power management signal,” as recited in the Claims. Office Action, Page 3. The Examiner offers Ebrahim as purportedly teaching “that it is known to provide a power management signal to a processor that controls the voltage provided to the subunits of the processor.” Office Action, Page 3 (citing Ebrahim, Fig. 4, col. 5, lines 50-55, and col. 6, lines 35-67).

However, Applicants respectfully submit that Ebrahim nowhere teaches, discloses, or even suggests providing a power management signal to a processor to control the voltage *provided to the subunits of the processor*. Instead, Ebrahim teaches controlling power provided to the processor as a whole: “the wakeup logic transitions the system’s *processor* to a working state.” Ebrahim, Abstract (emphasis added). Similarly, “In state SB the state machine forces the computer *system* into a low power or sleep state by generating control signals that reduce power consumption by various ones of the *system components*.” Ebrahim, col. 6, lines 46-50.

Ebrahim does not provide any detail as to exactly how power consumption by “various ones of the system components” is to be reduced, instead stating that “powering down various system

components[] are well known to those skilled in the art.” Ebrahim, col. 6, lines 57-59; see also lines 50-57. Nowhere does Ebrahim mention powering down or otherwise controlling voltages at the subunit level. Therefore, to the extent Ebrahim can be said to teach a “power management signal,” an assertion the Applicants dispute, the purported Ebrahim “power management signal” serves only to transition the entire processor to/from a “working state.”

The Examiner himself supports Ebrahim’s limited scope in his description of why “it would have been obvious” to combine Ebrahim and Takashima. *See* Office Action, Page 4. Specifically, the Examiner asserts that “adding Ebrahim’s *high level* power control system to Takashima’s power control system would allow for further power reduction by placing *the processor* in a low power state when it is not being actively used.” Office Action, Page 4 (emphasis added). The most the Examiner can say is that “Ebrahim discloses that the techniques used to power down *components* are well known (column 6, lines 53-59).” Office Action, page 4 (emphasis added). Applicants respectfully note that “techniques used to power down *components*,” even if in fact well known, do not disclose providing a power voltage to a *subunit* of a computer processor based on a determined idle status and a power management signal.

As described in the Specification, “it would be desirable to deactivate *portions* of the CPU’s circuitry that are not actively engaged in accomplishing steps set forth in the software that is presently being run.”. Original Application, Page 3, lines 10-13 (emphasis added). Similarly, the pending Claims recite, for example, “determining an idle status *of a subunit* of the computer processor”, “providing a clock signal” and “providing a power voltage *to the subunit* based on the determined idle status and a power management signal.” *See, e.g.*, Claim 16 (emphasis added). Ebrahim simply does not teach the granularity of power management provided by the unique combinations recited in the Claims, even when combined with Takashima.

As such, Applicants respectfully submit that the Examiner's proposed combination of Takashima and Ebrahim fails to teach, disclose, or suggest each and every element of Claim 16. Applicants therefore submit that Claim 16 is clearly and precisely distinguishable over the cited references in a patentable sense, and is therefore allowable over this reference and the remaining references of record. Accordingly, Applicants respectfully request that the rejection of Claim 16 under 35 U.S.C. §103(a) be withdrawn and that Claim 16 be allowed.

Claims 17-24 depend from and further limit Claim 16. As such, Applicants respectfully submit that Claims 17-24 are patentable over the Examiner's proposed combination for at least the same reasons that Claim 16 is patentable, as described above. Accordingly, Applicants respectfully request that the rejections of Claim 17-24 under 35 U.S.C. §103(a) be withdrawn and that Claims 17-24 be allowed.

Regarding Claims 25 and 33, the Examiner admits that Takashima fails to teach "providing a clock signal to the subunit based on a power management signal as claimed." Office Action, Page 7. To provide this missing element, the Examiner offers Ebrahim as purportedly teaching "that it is known to provide a power management signal to a processor that controls the clock signal provided to the subunits of the processor." Office Action, Page 7 (*citing* Ebrahim, Fig. 4; col. 5, lines 50-55; and col. 6, lines 35-67).

As described above, however, Ebrahim nowhere teaches, discloses, or even suggests providing a power management signal to a processor to control the *voltage provided to the subunits of the processor*. Instead, Ebrahim teaches controlling power provided to the processor as a whole. Applicants respectfully submit that likewise, Ebrahim nowhere teaches, discloses, or even suggests providing a power management signal to a processor to control the *clock signal* provided to the subunits of the processor.

More particularly, also as described above, Ebrahim does not provide any detail as to exactly how power consumption by “various ones of the system components” is to be reduced, instead stating that “powering down various system components[] are well known to those skilled in the art.” Ebrahim, col. 6, lines 57-59; see also lines 50-57. Nowhere does Ebrahim mention powering down or otherwise controlling voltages at the subunit level. Neither does Ebrahim mention controlling a clock signal at the subunit level. Therefore, to the extent Ebrahim can be said to teach a “power management signal,” an assertion the Applicants dispute, the purported Ebrahim “power management signal” serves only to transition the entire processor to/from a “working state” and not to control clock signals at the subunit level.

As such, Applicants respectfully submit that the Examiner’s proposed combination of Takashima and Ebrahim fails to teach, disclose, or suggest each and every element of Claims 25 and 33. Applicants therefore submit that Claims 25 and 33 are clearly and precisely distinguishable over the cited references in a patentable sense, and is therefore allowable over this reference and the remaining references of record. Accordingly, Applicants respectfully request that the rejections of Claims 25 and 33 under 35 U.S.C. §103(a) be withdrawn and that Claims 25 and 33 be allowed.

Claims 26-31 depend from and further limit Claim 25. Claims 34-36 depend from and further limit Claim 33. As such, Applicants respectfully submit that Claims 26-31 and 34-36 are patentable over the Examiner’s proposed combination for at least the same reasons that Claims 25 and 33 are patentable, as described above. Accordingly, Applicants respectfully request that the rejections of Claims 26-31 and 34-36 under 35 U.S.C. §103(a) be withdrawn and that Claims 26-31 and 34-36 be allowed.

Applicants have now made an earnest attempt to place this Application in condition for allowance. For the foregoing reasons and for other reasons clearly apparent, Applicants respectfully request full allowance of Claims 16-36.

Applicants do not believe that any fees are due; however, in the event that any fees are due, the Director is hereby authorized to charge any required fees due (other than issue fees), and to credit any overpayment made, in connection with the filing of this paper to Deposit Account No. 09-0447 of IBM Corporation.

Should the Examiner deem that any further amendment is desirable to place this Application in condition for allowance, the Examiner is invited to telephone the undersigned at the number listed below.

Respectfully submitted,

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